CONGRESSIONAL BUDGET OFFICE
COST ESTIMATE

October 26, 2001

S. 1447
Aviation Security Act

As passed by the Senate on October 11, 2001

SUMMARY

S. 1447 would establish a position for the Deputy Secretary of Transportation for Transportation Security to coordinate and direct aviation security and—in times of national emergencies—to coordinate security for all domestic transportation.

S. 1447 would authorize increased federal responsibility for all aspects of aviation security. The act would authorize a federal take-over of passenger and baggage screening as well as airport and aircraft security at most commercial airports. The act would authorize the deployment of air marshals on all commercial flights. CBO estimates that implementing S. 1447 would require the Department of Transportation (DOT) and the Department and Justice (DOJ) to hire about 31,000 employees to provide day-to-day aviation security. In addition, S. 1447 would authorize the Department of Transportation to reimburse airports for fiscal year 2002 costs associated with complying with increased security measures following the September 11, 2001, terrorist attacks. The act would require air carriers to pay $2.50 for each passenger that boards an aircraft. Finally, the act would expand the scope of DOT's research and development (R & D) activities related to aviation security.

S. 1447 would authorize the appropriation of such sums as may be necessary for aviation security for 2002 through 2004. CBO estimates that implementing S. 1447 would cost $9.4 billion over the 2002-2006 period, assuming appropriation of the necessary amounts.

CBO estimates S. 1447 would increase gross governmental receipts by $9 billion over the 2002-2006 period and by $21 billion over the 2002-2011 period. (Those amounts exclude the effects, on individual and corporate income taxes, which are likely to fall by about 25 percent of the gross revenue increases.) Because the act would affect governmental receipts, pay-as-you-go procedures would apply.

S. 1447 contains intergovernmental mandates as defined in the Unfunded Mandates Reform Act (UMRA), but CBO estimates the costs to comply with the mandates would not exceed

the threshold established in the act ($56 million in 2001, adjusted annually for inflation). In addition, S.1447 would authorize funding to cover the costs incurred by airport authorities to meet new security requirements put in place after September 11, 2001.

S. 1447 also contains private-sector mandates, as defined by UMRA. CBO estimates that the direct cost of those mandates offset by savings in the bill would exceed the annual threshold established by UMRA for private-sector mandates ($113 million in 2001, adjusted annually for inflation) in each of the first five years the mandates are in effect.

ESTIMATED COST TO THE FEDERAL GOVERNMENT

For this estimate, CBO assumes that the legislation would be enacted this fall and that necessary amounts will be appropriated each year. The estimated budgetary impact of S. 1447 is shown in the following table. The costs of this legislation fall within budget functions 400 (transportation) and 750 (administration of justice).

BASIS OF ESTIMATE

CBO estimates that implementing S. 1447 would cost about $9.4 billion over the 2002-2006 period, subject to appropriation of the estimated amounts. In addition, we estimate that S. 1447 would increase governmental receipts (revenues), by about $9 billion over the 2002-2006 period.

Spending Subject to Appropriation

S. 1447 would authorize the appropriation of such sums as may be necessary for aviation security over the 2002-2004 period. These funds would be used for hiring personnel to perform passenger and baggage screening, hiring additional air marshals, implementing airport security measures, reimbursing airports for increased security costs, providing aircraft security for general aviation aircraft, and conducting additional research and development programs for aviation security.

	By Fiscal Year, in Millions of Dollars				
	2002	2003	2004	2005	2006
CHANGES IN SPENDING SUBJECT TO APPROPRIATION					
Passenger and Baggage Screening					
Estimated Authorization Level	998	2,058	2,196	0	0
Estimated Outlays	889	1,942	2,181	242	0
Air Marshals					
Estimated Authorization Level	102	340	586	0	0
Estimated Outlays	92	316	561	59	0
Airport Security Measures					
Estimated Authorization Level	298	614	633	0	0
Estimated Outlays	268	582	631	63	0
Reimbursement of Airport Authorities					
Estimated Authorization Level	1,105	0	0	0	0
Estimated Outlays	553	552	0	0	0
General Aviation Aircraft Security					
Estimated Authorization Level	21	43	45	0	0
Estimated Outlays	19	41	45	4	0
R & D Chemical and Biological Weapons					
Estimated Authorization Level	24	24	25	0	0
Estimated Outlays	13	22	25	11	3
R & D Aviation Security Technology					
Estimated Authorization Level	70	50	50	50	50
Estimated Outlays	39	51	52	50	50
Regulations and Reports					
Estimated Authorization Level	2	1	0	0	0
Estimated Outlays	2	1	0	0	0
Total Changes in Spending Under S. 1447					
Estimated Authorization Level	2,620	3,131	3,534	50	50
Estimated Outlays	1,873	3,507	3,494	429	53
CHANGES IN REVENUES					
Estimated Revenues[a]	813	1,931	2,001	2,074	2,150

a. Gross revenue changes—excluding effects on corporate and individual income taxes.

Passenger and Baggage Screening. Section 108 would authorize the Attorney General, working cooperatively with the Secretary of Transportation, to develop a program to screen all passengers, carry-on and checked baggage, cargo and mail for illegal and dangerous items. The Attorney General would be responsible for the hiring and training of a work force of federal screeners. In addition, the Attorney General would be allowed to deploy federal law enforcement personnel at each passenger screening location. Finally, the Attorney General would work with small community airports to determine their needs for passenger and baggage screening which may include the deployment of federal employees.

Based on information from air carriers on security costs under current law, information on the cost of other federal law enforcement programs, and from the Federal Aviation Administration (FAA), CBO estimates that a new work force of federal passenger and baggage screeners would cost $5.3 billion over the three-year authorization period of 2002 through 2004. (Of that total, we assume that a small portion of outlays, about $200 million, would occur in 2005.) The costs associated with developing and running a screening program include hiring screeners, deploying armed law enforcement officers at screening checkpoints, training and background checks for screeners, and acquiring and maintaining equipment for screening carry-on and checked baggage, and for screening passengers.

Background. Under current law, three principal partners provide aviation security at all commercial airports: air carriers, airport authorities, and the FAA. All passenger and baggage screening, both checked and carry-on, is currently the responsibility of air carriers. Air carriers usually contract with private companies to provide trained screeners at security checkpoints. In addition, the air carriers are responsible for security from the screening checkpoints to the airplanes, including jetways. Airport authorities are responsible for security, including law enforcement, of the airport perimeter, parking areas, exterior entry areas, and interior areas up to the passenger-screening checkpoints. Airports also provide law enforcement officers for the screening checkpoints.

The FAA provides security threat information, establishes security policies and regulations, evaluates the effectiveness of airport and airline security programs, conducts research and development on security technology, and purchases and installs certain security equipment in airports. Though the air carriers purchase x-ray machines and metal detectors used at screening checkpoints, FAA purchases much of the other security technologies used in airports.

Hiring Screeners. Within nine months following enactment, the Attorney General would be responsible for screening passengers and their baggage. CBO estimates this provision would cost about $3 billion over the 2002-2005 period.

For this estimate, CBO assumes all screening employees would be paid according to the federal general pay schedule. After training, we assume screeners would receive an average base salary of about $35,500 (GS-7), supervisors would receive about $52,600 (GS-11), and managers would receive about $74,900 (GS-13). This pay assumption for screeners represents a significant increase over current salaries—which average less than $15,000. Based on the cost of benefits for employees of the Customs Service, we estimate that benefits for screening employees would add about 35 percent to this base salary. Based on the historical costs of the Customs Service, we anticipate that screeners would receive significant overtime pay, but supervisors and managers would not. For this estimate, we assume screeners would receive overtime pay equal to about 15 percent of their base salary. In sum, we estimate that the average 2002 cost would be about $53,000 for each screener, about $71,000 for each supervisor, and about $101,000 for each manager. CBO assumes that salaries would increase in subsequent years to keep pace with anticipated inflation. In addition, based on information from FAA, we assume that employing a workforce of this size would involve administration staff and infrastructure costs of about $200 million annually.

Under current airport security procedures, there are about 16,200 screeners, 2,800 supervisors, and 100 managers. For this estimate, we assume that the Attorney General would maintain a similar-sized workforce for 2002, and would increase the workforce each year to keep pace with increases in the number of passengers on domestic flights (about 3 percent a year, starting in 2003). Expanding the number of screeners to increase security at U.S. airports, however, would impose additional costs. For example, we estimate that hiring one additional screener (with corresponding supervision and management) for each of the existing 754 airport checkpoints would cost nearly $60 million a year.

Armed Law Enforcement Officers. S. 1447 would authorize the Attorney General to deploy at least one law enforcement officer at each of the existing 754 airport checkpoints. CBO estimates this provision would cost about $470 million for the three-year (2002-2004) period.

To have one officer on duty at any given time during operating hours could require hiring three officers per day for each checkpoint. In addition, the Attorney General may choose to deploy additional law enforcement officers at the 100 largest airports. For this estimate, we assume that on average the Attorney General would hire three law enforcement officers for each checkpoint—a total of 2,262 officers. We also assume that the number of law enforcement officers would increase each year to keep pace with increases in the number of passengers on domestic flights.

Based on current salaries of employees of the Immigration and Naturalization Service (INS), we assume law enforcement officers would receive an average base salary of about $46,500. Based on the average cost of benefits for employees of the Customs Service and the INS, we assume benefits for airport law enforcement employees would add about 35 percent to this base salary. Finally, based on the historical costs of the Bureau of Alcohol, Tobacco, and Firearms, and the Customs Service, we assume that law enforcement officers would receive overtime pay equal to about 15 percent of their base salary. In total, we estimate that the average cost for each officer would be about $73,000. CBO expects that salaries would increase in subsequent years to keep pace with anticipated inflation. In addition, we assume that employing a workforce of this size would involve administrative staff and infrastructure costs of about $67 million over the 2002-2005 period.

Training and Background Checks for Screeners. In addition to personnel, assuming the responsibility for airport security would impose additional costs for training, testing, and auditing screeners and performing background checks. The act also would require a senior level security officer at each airport (about 450 positions) and two ground security coordinators at each checkpoint (about 1,500 positions). Assuming that the Attorney General maintains the current number for each of these functions, CBO estimates that these requirements would cost about $975 million for three years.

Acquiring and Maintaining Equipment. Based on information from FAA, CBO expects the federal government to purchase additional equipment to examine all passenger baggage at airports (including checked and carry-on items.) CBO estimates that purchasing and maintaining equipment would cost about $600 million for the 2002-2004 period.

Under current law, only a portion of checked baggage is examined. In order to examine 100 percent of checked baggage, we expect the federal government would need to purchase about 1,500 checked-baggage screening systems, at a cost of about $1 million each. For every system, we assume that the government would purchase an explosive detection device at a cost of $40,000 each. Because of production constraints and the physical size of these machines, CBO expects that the government would purchase about 150 new machines each year for several years. In addition, CBO estimates that the annual cost of maintaining these machines would equal about 10 percent of the purchase price.

Based on information from FAA, to increase security for carry-on baggage, the federal government would need to purchase about 850 x-ray machines at a cost of $55,000 each and 425 explosive detection devices at a cost of $40,000 each. We expect these machines could be put in place fairly quickly; therefore, we estimate purchasing this equipment would cost about $63 million over the next few years.

Phase-in of Federal System. Recruiting, training, and deploying a workforce of about 24,000 employees with direct responsibility for passenger and baggage security would be challenging and require a number of years to be fully operational. S. 1447 does not specify a schedule for the transition from private contractors to federal employees, except that the

Attorney General is to assume responsibility within nine months of enactment. For this estimate, we assume that the Attorney General will hire contractors and enter into agreements with states and local governments and existing federal law enforcement agencies to supply security until there are sufficient federal employees in place for airport security. We estimate that hiring contractors and state and local law enforcement personnel for this short duration would cost about the same as a fully operational federal workforce over a similar period. CBO estimates that the costs for screening passengers and baggage would begin in 2002, but certain security equipment costs would extend over a number of years.

Air Marshals. Section 105 would authorize the Department of Transportation to place air marshals on all scheduled passenger flights. The act would authorize the Attorney General to develop guidelines for the training and deployment of air marshals. However, day-to-day administration of the air marshal program would remain with DOT. Under the act, CBO estimates that hiring additional air marshals for more commercial flights would cost $1 billion for the three-year authorization period.

According to DOT, the use of air marshals on every commercial flight would require 14,000 air marshals. Under current law, the number of air marshals and their deployment on specific flights is classified. Some security experts have noted that the air marshal program could provide adequate security without having a marshal on every flight. For this estimate, CBO assumes that when the program is fully operational 20 percent of flights would have at least one air marshal so the number of air marshals would total about 2,800. Based on information from FAA, CBO estimates that on average each marshal costs about $170,000 a year, including salary, benefits, training, supervision, equipment, and other administrative expenses.

CBO expects that hiring and training the additional air marshals would take a few years. There probably were fewer than 100 air marshals prior to the terrorist attacks of September 11, 2001. Following the attacks, emergency funds were allocated to hire 400 additional air marshals. Some aviation experts have suggested that hiring, training, and supervising more than 1,000 air marshals in 2002 would be very difficult, if not impossible. For this estimate, we assume that under S. 1447 the FAA would hire and train an additional 600 air marshals during 2002. We further assume that the program would be fully operational by 2004, and the number of air marshals would increase to keep pace with increases in the number of flights.

Airport Security Measures. Section 106 would authorize the Secretary of Transportation to deploy federal law enforcement officers to secure all areas in the nation's largest airports, including the perimeter. The Secretary would work with small- and medium-sized airports to determine their needs. This assessment could lead to the deployment of federal law enforcement officials in those airports, as well. In addition, this section directs the Secretary of Transportation to work with airport operators to improve access control systems and equipment for secured areas.

Based on information from airport authorities, and the experience of other federal law enforcement programs, CBO estimates that increased airport security at the nation's 450 commercial airports would cost $1.5 billion for the three-year authorization period. CBO assumes that 6,990 federal law enforcement officers would be deployed at a cost of $85,000 per officer—including salary, benefits, overtime, equipment, and administrative costs. CBO assumes that each of the 120 largest commercial airports would have about 50 federal enforcement officers. In addition, we estimate each of the 330 small- to medium-sized commercial airports would have three federal law enforcement officers. CBO assumes that the federal take-over of airport security would be phased-in during 2002.

Reimbursement of Airports for Increased Security Costs. Section 120 would authorize the Secretary of Transportation to reimburse airports for fiscal year 2002 costs associated with complying with increased security measures following the September 11, 2001, terrorist attacks. Airports would continue to contract for law enforcement personnel while the federal program is becoming fully operational. Based on information from the Airports Council International (ACI), CBO estimates the cost of reimbursing airports would be $1.1 billion over the 2002-2003 period. ACI estimates that airports need an additional 2,552 law enforcement officers at a cost of $257 million. In addition, ACI estimates that airports will pay $751 million to upgrade access control equipment for secured areas to meet the new security standards and $98 million for operating costs. CBO does not expect that all of those upgrades could be completed in 2002.

General Aviation Aircraft Security. Section 131 would authorize the Administrator of the FAA to develop a program to provide pre-flight searches of general aviation aircraft and screening of crew members of other people that may board a flight before take-off. General aviation includes private jets and charter planes among other types of small aircraft. The act would require the Administrator to implement the program for planes over 12,500 pounds within 90 days of enactment and for smaller aircraft within one year. For this estimate, CBO assumes that the cost of general aviation security would be about one-half the cost of security at small- to medium-sized airports. CBO estimates the cost of enhancing general aviation aircraft security would be $109 million for the 2002-2004 period.

Research and Development—Chemical and Biological Weapons. Section 110 would authorize the Administrator of FAA to conduct research into the potential release of chemical and biological weapons within an aircraft or airport and develop technologies to prevent such releases. Based on FAA's current spending to research security technology, CBO estimates that outlays for this provision would total $73 million over the 2002-2006 period.

Research and Development—Aviation Security Technology. Section 221 would authorize the Administrator of the FAA to increase research and development activities related to aviation security technology. The Administrator would be authorized to provide grants to industry, academic, and government entities to improve technologies related to explosives detection, baggage, passenger and cargo screening, employee training, and aircraft construction. This section would authorize the appropriation of $50 million per year over the 2002-2006 period and such sums as may be necessary for each successive year for this research effort. In addition, the act would authorize $20 million in grants for research about biometrics, longer-term airport security, and the sharing of security information among federal agencies. Based on historical spending patters of FAA's research programs, CBO estimates that outlays would total $242 million over the 2002-2006 period, assuming appropriation of the authorized amounts.

Revenues

CBO estimates S. 1447 would increase gross governmental receipts by $9 billion over the 2002-2006 period and $21 billion over the 2002-2011 period. S. 1447 would require the Secretary of Transportation to collect $2.50 from the air carriers for each passenger that boards an aircraft (known as an enplanement). Collection would start 180 days after enactment. Nationwide, the number of enplanements significantly decreased following the terrorist attacks of September 11, 2001. We assume the number of enplanements will return to historical levels during fiscal year 2002. For this estimate, we assume the number of passengers on domestic and international flights will continue growing at historical rates over the 2003-2011 period.

The additional per-passenger fee, by increasing costs, would tend to reduce air carrier profits and have other effects on taxable income such that individual and corporate income tax receipts would fall by about 25 percent of the ticket fees collected. This offset to total governmental receipts is not shown in the table or included in the revenue totals provided by this cost estimate.

PAY-AS-YOU-GO CONSIDERATIONS

The Balanced Budget and Emergency Deficit Control Act sets up pay-as-you-go procedures for legislation affecting direct spending or receipts. The net changes in governmental receipts that are subject to pay-as-you-go procedures are shown in the following table. For the purposes of enforcing pay-as-you-go procedures, only the effects in the current year, the budget year, and the succeeding four years are counted.

	By Fiscal Year, in Millions of Dollars									
	2002	2003	2004	2005	2006	2007	2008	2009	210	2011
Change in outlays					Not applicable					
Change in receipts	813	1,931	2,001	2,074	2,150	2,229	2,310	2,395	2,483	2,574

ESTIMATED IMPACT ON STATE, LOCAL, AND TRIBAL GOVERNMENTS

The bill would require airport operators to use technology and equipment to detect potential biological and chemical weapons, to develop security awareness programs for airport employees, and to perform background checks on certain airport employees with access to planes and secure areas of the airport. The bill also would preempt state law by exempting volunteers who provide emergency assistance on commercial flights from liability in an action brought in state court. These requirements and the preemption are mandates under UMRA.

Several other provisions of the bill may impose mandates on airport operators, depending on how FAA and DOJ implement the requirements. Those provisions include improving security around airport perimeters, using state and local law enforcement personnel to screen passengers at smaller airports, and screening personnel and supplies entering secured areas of the airport.

In general, airport operators have already taken actions similar to the requirements in S. 1447 under regulations issued by the FAA since September 11, 2001. Accordingly, CBO estimates that the additional costs of complying with the mandates in the bill would not exceed the threshold established in UMRA, $56 million in 2001, adjusted annually for inflation.

The bill would authorize funding for airports to cover the costs of security improvements made as a result of new and revised security requirements issued after September 11, 2001. The bill also would increase the flexibility of airports to use airport improvement funds for security-related projects.

ESTIMATED IMPACT ON THE PRIVATE SECTOR

S. 1447 also contains private-sector mandates, as defined by UMRA. S. 1447 would impose private-sector mandates on air carriers, commercial airplane manufacturers, persons who provide training in the operation of jet-propelled aircraft, and aliens. CBO estimates that the direct cost of those mandates offset by savings in the act would exceed the annual threshold established by UMRA for private-sector mandates ($113 million in 2001, adjusted annually for inflation) in each of the first five years the mandates are in effect.

Air carriers would be required to remit a user fee for security services of $2.50 for each passenger enplanement. Based on enplanement data from FAA, CBO estimates the cost of the security fee to air carriers would range from $813 million in fiscal year 2002 to $2.2 billion in fiscal year 2006. The cost of this mandate would be offset by savings to the air carriers because the bill directs the federal government to take over the responsibility and cost of screening airline passengers and carry-on baggage. Based on information from the Air Transport Association, the savings to the air carriers would range from $500 million in fiscal year 2002 to $1.2 billion in fiscal year 2006. Therefore, CBO estimates that the direct cost net of savings to air carriers to comply with this mandate would range from $313 million in fiscal year 2002 to $1.0 billion in fiscal year 2006. (Note, however, if air carriers were to pass on all of the costs of the $2.50 fee to passengers, the carriers would net additional income—from lower expenses—of about $500 million in 2002 and $1.2 billion in 2006.)

The bill would require commercial manufacturers to strengthen and secure rigid flight deck doors on new large aircraft and provide cockpit doors or barriers on new commuter aircraft. The cost of this mandate would be determined by the standards to be set by the FAA. CBO cannot estimate the direct cost of the mandate as the new standards have not been established.

S. 1447 also would place mandates on persons who provide training in the operation of jet-propelled aircraft and on certain aliens. Persons who provide such aircraft training would be required to report certain information concerning the persons they train. Further, aliens would be required to receive a certification of a completed background check from the Attorney General prior to taking jet-propelled aircraft training. According to the FAA, the number of persons providing such training and aliens impacted by those mandates would be small.

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